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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,371	04/28/2000	Lucius Gregory Meredith	MS147249.1	3551

27195 7590 09/13/2004

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EXAMINER

ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/560,371

Applicant(s)

MEREDITH ET AL.

Examiner

Trent J Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to Amendment A filed 15 June 2004.
2. Per applicant's request, amended claims 1-28 have been entered. Claims 1-28 are now pending.
3. Claims 1-28 have been examined.

Claim Rejections - 35 USC § 101

4. The rejections of claims 1-7 and 22-28 under 35 U.S.C. § 101 have been withdrawn in view of the applicant's amendments.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7 and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by "A Common Object Model Discussion Paper" by the Workflow Management Coalition, hereafter referred to as WMC.

Regarding claim 1:

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WMC teaches:

- a computer implemented method that associates actions of a business workflow process with a technological component (“A standardized API model...is provided for communication between software applications and the workflow...” on page 4, section 2)
- providing an abstract model of the business workflow process (“WorkProcess represents an instance of a workflow model...” on page 7, section 2.2.2)
- breaking the abstract model into an executable representing a business operation (“WorkProcess represents an instance of a workflow model; it provides operations to control process execution...” on page 7, section 2.2.2)
- using a binding separate from the abstract model to link the executable to the technological component (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the figure on page 7. The ProcessDefinition object is the actual model (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2) and the WorkProcess object is an executable instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model.)

substantially as claimed.

Regarding claim 2:

The rejection of claim 1 is incorporated, and further, WMC discloses binding to link the executable to at least a second technological component as claimed (“The ability to establish dynamic bindings

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with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the Figure on page 15.)

Regarding claim 3:

The rejection of claim 1 is incorporated, and further, WMC discloses a plurality of business operations as claimed (Note the Figure on page 15)

Regarding claim 4:

The rejection of claim 3 is incorporated, and further, WMC discloses binding to link the plurality of executables to a plurality of technological components as claimed (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the Figure on page 15.)

Regarding claim 5:

The rejection of claim 1 is incorporated, and further, WMC discloses a scheduler that schedules that order of execution as claimed (“An activity work script relates Applications/Participants and work items. Two scenarios are identified: Sequential work-items – the work items are created sequentially and all assigned to the same resource set. Parallel work items – the work items are created and assigned to the participant set for parallel processing...” on pages 13 and 14, section 5.2)

Regarding claim 6:

The rejection of claim 1 is incorporated, and further, WMC discloses binding to provide information regarding a business implementation as claimed (“to allow the enactment of a single business

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process across several different workflow systems...” on page 4, section 2.1. Further, “WfObject defines the attributes and operations common to all workflow entities” on page 7, section 2.2.2)

Regarding claim 7:

The rejection of claim 5 is incorporated, and further, WMC discloses using a second binding to link the executable to a second technological component as claimed (Note the figure on page 7)

Regarding claim 16:

WMC teaches:

- a system for facilitating modeling of business processes comprised of a plurality of business operations (“the workflow services are modeled as separate, ‘loosely coupled’ domains which each offer a defined range of capability to other workflow services” on page 4, section 2.1.1)
- the system comprising a computer-readable medium and a plurality of computer-executable files (“to support client application access to the workflow enactment service from distributed platforms” on page 4, section 2. A computer-readable medium and computer-executable files are inherently present in a distributed platform environment.)
- a scheduling component that defines the flow of business operations in a schedule (“An activity work script relates Applications/Participants and work items. Two scenarios are identified: Sequential work-items – the work items are created sequentially and all assigned to the same resource set. Parallel work items – the work items are created and assigned to the participant set for parallel processing...” on pages 13 and 14, section 5.2)

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- a binding component that separates the schedule from implementations of a workflow and maps actions in the schedule to calls on at least one technological component (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the figure on page 7.)

substantially as claimed.

Regarding claim 17:

The rejection of claim 16 is incorporated, and further, note the rejection regarding claim 10.

Regarding claim 18:

The rejection of claim 16 is incorporated, and further, WMC discloses business operations as actions connected by data flowing between them and actions are ports and messages wherein a binding file provides virtual port and message mapping between business operations and technological components (Note the figure on page 7. The ProcessDefinition object is the actual model (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2) and the WorkProcess object is an executable instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model. Lastly, “Each significant status change of a WfObject triggers a WfEvent to be published...” on page 7, section 2.2.2. The events are messages between components, which is data flow.)

Regarding claim 19:

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The rejection of claim 16 is incorporated, and further, note the rejection regarding claim 12.

Regarding claim 20:

The rejection of claim 16 is incorporated, and further, note the rejection regarding claim 13.

Regarding claim 21:

The rejection of claim 16 is incorporated, and further, note the rejection regarding claim 14.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-15 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A Common Object Model Discussion Paper" by the Workflow Management Coalition, hereafter referred to as WMC, in view of Executable Workflows: A Paradigm for Collaborative Design on the Internet by Lavana et al, hereafter referred to as Lavana.

Regarding claim 8:

WMC teaches:

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- a system that facilitates modeling of business processes comprised of a plurality of business operations (“the workflow services are modeled as separate, ‘loosely coupled’ domains which each offer a defined range of capability to other workflow services” on page 4, section 2.1.1)
- comprising a computer-readable medium and a plurality of computer-executable files (“to support client application access to the workflow enactment service from distributed platforms” on page 4, section 2. A computer-readable medium and computer-executable files are inherently present in a distributed platform environment.)
- a scheduling component to define a flow of business operations (“An activity work script relates Applications/Participants and work items. Two scenarios are identified: Sequential work-items – the work items are created sequentially and all assigned to the same resource set. Parallel work items – the work items are created and assigned to the participant set for parallel processing...” on pages 13 and 14, section 5.2)
- a binding component that defines the business operations through a schedule message, a port connection, a port and a message interface with a component outside the schedule (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the figure on page 7. The ProcessDefinition object is the actual model (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2) and the WorkProcess object is an executable instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model. Lastly, “Each significant status change of a WfObject triggers a WfEvent to be published...” on page 7, section 2.2.2. The events are messages between components.)

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substantially as claimed. WMC, while exhibiting a dataflow diagram in the figures of pages 13 and 14, does not explicitly disclose a dataflow diagram to define the flow of business operations, including actions coupled via data flowing between them. Lavana discloses in an analogous workflow system a dataflow diagram system enabling a user to define the flow of business operations, including actions coupled via data flowing between them as claimed (Note figures 2 and 6 and their corresponding sections of the paper). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the user-generated dataflow diagram of Lavana with the workflow system of WMC, as this would enable a user to visually determine relationships between workflow components.

Regarding claim 9:

The rejection of claim 8 is incorporated, and further, WMC discloses the binding component further defines technology specific information as claimed (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the Figure on page 15.)

Regarding claim 10:

The rejection of claim 8 is incorporated, and further, WMC discloses binding a single business operation to a plurality of technological components as claimed (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the Figure on page 15.)

Regarding claim 11:

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The rejection of claim 8 is incorporated, and further, WMC discloses a binding file that provides port and message mapping between operations and between business operations and technological components as claimed (Note the figure on page 7. The ProcessDefinition object is the actual model (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2) and the WorkProcess object is an executable instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model. Lastly, “Each significant status change of a WfObject triggers a WfEvent to be published...” on page 7, section 2.2.2. The events are messages between components.)

Regarding claim 12:

The rejection of claim 11 is incorporated, and further, WMC discloses the binding component further defines message structure and declaring messages as claimed (“Each significant status change of a WfObject triggers a WfEvent to be published...” on page 7, section 2.2.2. The events are messages between components.)

Regarding claim 13:

The rejection of claim 8 is incorporated, and further, WMC discloses context semantics as claimed (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, semantics are inherently present in the binding.)

Regarding claim 14:

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The rejection of claim 8 is incorporated, and further, WMC discloses schedule conditionals as claimed (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, conditionals are inherently present in the binding.)

Regarding claim 15:

The rejection of claim 8 is incorporated, and further, WMC discloses a second binding component that binds the business operations with a second component outside of the schedule as claimed (Note the figure on page 15 and the corresponding discussion.)

Regarding claim 22:

WMC teaches:

- a computer implemented business process scheduling software (“to allow the enactment of a single business process across several different workflow systems in different departments...” on page 4, section 2.1)
- a data flow module that allows a user to define a flow of business operations (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2)
- a binding module that allows a user to define a link between the business operations and the plurality of disparate business implementations (“The ability to establish dynamic bindings with location service between different workflow components or between different workflow services...” on page 8, section 3.1. Further, note the figure on page 7. The ProcessDefinition object is the actual model (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2) and the WorkProcess object is an executable

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instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model.)

substantially as claimed. WMC does not explicitly disclose defining a flow of business operations in a file. Lavana discloses in an analogous workflow system defining a flow of business operations in a file that is utilized with a plurality of disparate business implementations as claimed ("The workflow can be dumped directly to a postscript file" on page 10, section 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the business operations in a file in the workflow system disclosed by WMC, as this would allow a user to transport the file to a remote location if needed.

Regarding claim 23:

The rejection of claim 22 is incorporated, and further, WMC discloses the binding module allowing the user to specify the business implementation as claimed (Note the figure on page 7 and the corresponding discussion.)

Regarding claim 24:

The rejection of claim 22 is incorporated, and further, WMC discloses allowing the user to specify programmable semantics as claimed (Note the figure on page 11 and the corresponding discussion.)

Regarding claim 25:

The rejection of claim 22 is incorporated, and further, WMC does not explicitly disclose the binding being in a programming language having an XML syntax. However, WMC discloses that XML may

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have a role to play in the ability to transfer a business project as a work object on page 9, section 3.2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an XML syntax in the system disclosed by WMC, as this would give the ability to transfer a business process...as a work object in its own right, as an alternative to an individual activity or workitem, as stated on page 9, section 3.2 of WMC.

Regarding claim 26:

WMC teaches:

- a computer implemented system for modeling of business processes comprised of a plurality of business operations (“the workflow services are modeled as separate, ‘loosely coupled’ domains which each offer a defined range of capability to other workflow services” on page 4, section 2.1.1)
- means for defining a flow of business operations (“ProcessDefinition represents a workflow process model...” on page 7, section 2.2.2)

substantially as claimed. WMC does not explicitly disclose a means for linking the definition to application program interfaces. Lavana discloses in an analogous workflow system a means for linking the definition to application program interfaces as claimed (Note Figure 7 and the corresponding discussion). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the API linking means of Lavana with the workflow system of WMC, as this would allow easy support for distributed team collaboration as disclosed by Lavana in section 6.

Regarding claim 27:

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The rejection of claim 26 is incorporated, and further, WMC discloses means for defining a business implementation as claimed ("ProcessDirectory is a locator for all Process Definitions within a Business System Domain" on page 7, section 2.2.2)

Regarding claim 28:

The rejection of claim 26 is incorporated, and further, WMC does not explicitly disclose the definition of the flow of business operations and the means for linking the technological components reside in separate computer executable files. Lavana discloses in an analogous workflow system defining a flow of business operations in a file that is utilized with a plurality of disparate business implementations as claimed ("The workflow can be dumped directly to a postscript file" on page 10, section 5. As such, the definition is stored in its own file, separate from the means for linking). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the business operations in a file in the workflow system disclosed by WMC, as this would allow a user to transport the file to a remote location if needed.

Response to Arguments

9. Applicant's arguments filed 15 June 2004 have been fully considered but they are not persuasive.

Per claim 1:

The applicant states that WMC does not teach or suggest breaking the WorkProcess interface object into at least one executable of business operations. In response, it is noted that the WorkProcess component is a separate instance from the actual model (represented by ProcessDefinition), and

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further, “WorkProcess represents an instance of a workflow model; it provides operations to control process execution...” on page 7, section 2.2.2. The WorkProcess instance is an executable form of the model defined in the ProcessDefinition. As such, these sections disclose providing an abstract model and breaking the model into an executable as claimed. Further, the applicant states that WMC does not teach or suggest utilizing a binding separate from an abstract model to bind executable representations of business operations, generated from the abstract model, with technological components. In response, it is noted that the claim only states that the binding, separate from the abstract model, is used to link the executable to the technological component. Page 8, section 3.1 disclosed that static predefined relationship binding was well known, and that the ability to establish dynamic binding is *becoming* increasingly important. Further, as noted in the rejection of claim 1, the ProcessDefinition object is the actual model and the WorkProcess object is an executable instance of the model. The WfObject defines attributes and operations common to all workflow entities, which is interpreted to represent the binding. As shown in the figure, this is a separate entity than the actual model. As such, WMC is discloses providing a binding separate from the abstract model, used to link the executable to the technological component. For these reasons, the rejection of claim 1 is proper and maintained.

Per claims 8, 22 and 26:

The applicant states that the limitations of claims 8, 22 and 26 are not described, taught or suggested by WMC. The applicant's arguments with respect to claims 8, 22 and 26 have been considered but are moot in view of the new ground(s) of rejection.

Per claim 16:

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The applicant states that the limitations of claim 16 are not described, taught or suggested by WMC. In response, it is noted in the rejection of claim 16 that WMC disclosed the newly added limitations. For this reason, the rejection of claim 16 is proper and maintained.

Per claim 25:

The applicant states that claim 25 is allowable as being dependent on an allowable base claim. Furthermore, the applicant fails to show that the motivation concerning the rejection of claim 25 is improper. As has been shown above, the rejection of independent claim 22 is proper, and as such, the argument that claim 25 is allowable as being dependent on an allowable base claim is considered moot. Therefore, the rejection of claim 25 is proper and maintained.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trent J Roche whose telephone number is (703)305-4627. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trent J Roche
Examiner
Art Unit 2124

TJR


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